

ABSTRACT

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Row relaxation for the DOMP

The Discrete Ordered Median Problem (DOMP) seeks for the location p facilities and the allocation of each client to its closest open facility in such a way that the ordered weighted average of the allocation costs is minimized.

In recent years, DOMP has been formulated using set packing constraints known as strong order constraints or SOC. In this work, we explore a solution method based on the relaxation of SOC.

This procedure starts with a relaxed formulation where all SOC are removed and feasibility is enforced adding model constraints from SOC family in the searching tree.

Besides, we compare the performance of this row relaxation approach using callbacks based on specific tailor made oracles with respect to the use of fixed pools of constraints defined in advance. Furthermore, we compare this procedure with other previous solution methods for the DOMP.